

## Abstract

The present invention provides a human monoclonal antibody that has both activity of inhibiting the aggregation of pathogenic bacteria involved in periodontal diseases and activity of promoting sterilization by leukocytes, that is preferably a monoclonal antibody against 40-kDa OMP, which inhibits the binding of hemin, and that causes no concerns such as side effects. The present invention further provides an agent that acts against periodontal diseases containing the monoclonal antibody. The present invention relates to an antibody binding to 40-kDa OMP or a functional fragment thereof having at least one of (1) activity of inhibiting the coaggregation of *P. gingivalis*, (2) activity of promoting human neutrophilic phagocytosis, and (3) activity of inhibiting the binding of hemin to 40-kDa OMP.